Evaluating Academic Answers Generated Using ChatGPT

Abstract

The integration of technology in education has become ever more prioritized since the COVID-19 pandemic. Chat Generative Pre-Trained Transformer (ChatGPT) is an artificial intelligence technology that generates conversational interactions to user prompts. The trained model can answer follow-up questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests. The functionality of ChatGPT in answering chemistry assessment questions requires investigation to ascertain its potential impact on learning and assessment. Two chemistry-focused modules in year 1 and year 2 of a pharmaceutical science program are used to study and evaluate ChatGPT-generated responses in relation to the end-of-year exam assessments. For questions that focused on knowledge and understanding with "describe" and "discuss" verbs, the ChatGPT generated responses. For questions that focused on application of knowledge and interpretation with nontext information, the ChatGPT technology reached a limitation. A further analysis of the quality of responses is reported in this study. ChatGPT is not considered a high-risk technology tool in relation to cheating. Similar to the COVID-19 disruption, ChatGPT is expected to provide a catalyst for educational discussions on academic integrity and assessment design. © 2023 The Authors. Published by American Chemical Society and Division of Chemical Education, Inc.